

45CSR30 TITLE V
PERMIT APPLICATION

FERRO ALLOY FACILITY
PLANT ID. 053-00004

PREPARED FOR:

FELMAN PRODUCTION, INC.
NEW HAVEN, WEST VIRGINIA

PREPARED BY:

ENVIRONMENTAL REGULATORY SERVICE GROUP, INC.
452 EIGHTH STREET
ST. ALBANS, WEST VIRGINIA 25177

PROJECT NUMBER ERSG 06-118-01

APRIL 2006

April 24, 2006

HAND DELIVERED

Project No. ERSG 06-118-01

Director
WVDEP, Division of Air Quality
601 - 57th Street
Charleston, West Virginia 25304

Updated Title V Permit Application
Felman Production, Inc.

Dear Director:

Environmental Regulatory Service Group, Inc. (ERSG) has prepared the attached updated Title V (45CSR30) Permit Application on behalf of Felman Production, Inc., ID. No. 03-54-053-00004, located near New Haven, West Virginia. This facility manufactures manganese and silicon based ferroalloys.

The purpose of the application is to reactivate the Title V permit process, which was delayed due to changes in ownership, and to bring Felman Production, Inc. into compliance with the Title V Operating Permit program.

This submittal includes a compliance plan for the Ferroalloy MACT (40CFR63, Subpart XXX) as required by Consent Order MM-06-001. The proposed plan is located in Appendix B.

If any additional information is needed, please contact me at (304) 722-2100 or by e-mail at ersg@citynet.net.

Sincerely,

James F. Jarrett
Lead Engineer

Cc: Matt Grandinette, Datagraphics
Joe Morgan, ERSG

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL
PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE

Charleston, WV 25304

Phone: (304) 926-0475

TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): Felman Production, Inc.	2. Facility Name or Location: Letart
3. DAQ Plant ID No.: 0 5 3 — 0 0 0 0 4	4. Federal Employer ID No. (FEIN): 0 2 0 7 6 1 8 4 9
5. Permit Application Type: <input type="checkbox"/> Initial Permit <input type="checkbox"/> Permit Renewal <input checked="" type="checkbox"/> Update to Initial Permit Application When did operations commence? Expected 09/01/2006 What is the expiration date of the existing permit? MM/DD/YYYY	
6. Type of Business Entity: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Governmental Agency <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Partnership	7. Is the Applicant the: <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Both If the Applicant is not both the owner and operator, please provide the name and address of the other party. _____ _____ _____
8. Number of onsite employees: 240	
9. Governmental Code: <input checked="" type="checkbox"/> Privately owned and operated; 0 <input type="checkbox"/> County government owned and operated; 3 <input type="checkbox"/> Federally owned and operated; 1 <input type="checkbox"/> Municipality government owned and operated; 4 <input type="checkbox"/> State government owned and operated; 2 <input type="checkbox"/> District government owned and operated; 5	
10. Business Confidentiality Claims Does this application include confidential information (per 45CSR31)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY" guidance.	

11. Mailing Address**Street or P.O. Box:** Route 3, Box 127**City:** Letart**State:** WV**Zip:** 25253**Telephone Number:** (304) 882-1181**Fax Number:** (304) 882-1187**12. Facility Location****Street:** US Route 62 North**City:** New Haven**County:** Mason**UTM Easting:** 419.73 km**UTM Northing:** 4,312.468 km**Zone:** ☒ 17 or ☐ 18**Directions:** Approximately 4 miles east of New Haven adjacent to US Route 33.**Portable Source?** ☐ Yes ☒ No**Is facility located within a nonattainment area?** ☒ Yes ☐ No**If yes, for what air pollutants?**
PM2.5**Is facility located within 50 miles of another state?** ☒ Yes ☐ No**If yes, name the affected state(s).**
Ohio**Is facility located within 100 km of a Class I Area¹?** ☐ Yes ☒ No**If yes, name the area(s).****If no, do emissions impact a Class I Area¹?** ☐ Yes ☒ No

¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.

13. Contact Information		
Responsible Official:		Title:
Street or P.O. Box:		
City:	State:	Zip: -
Telephone Number: () -	Fax Number: () -	
E-mail address:		
Environmental Contact:		Title:
Street or P.O. Box:		
City:	State:	Zip: -
Telephone Number: () -	Fax Number: () -	
E-mail address:		
Application Preparer: Joseph Morgan		Title: Lead Engineer
Company: ERSG, Inc.		
Street or P.O. Box: 452 Eighth Street		
City: St. Albans	State: WV	Zip: 25177
Telephone Number: (304) 722-2100	Fax Number: (304) 722-5654	
E-mail address: ersg@citynet.net		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Primary Metal Industries	Electrometallurgical Products	331112	3313
Primary Metal Industries	Secondary Nonferrous Metals	331492	3341

Provide a general description of operations.

Manufacturing of manganese and silicon based ferroalloys.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input checked="" type="checkbox"/> NESHAP (45CSR15)	<input checked="" type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> Section 112(j) MACT hammer
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 129 Standards/Reqs.	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input checked="" type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> NO _x Budget Trading Program Non-EGUs (45CSR1)	<input type="checkbox"/> NO _x Budget Trading Program EGUs (45CSR26)

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>None</p>
<input type="checkbox"/> Permit Shield

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

☐

Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

45CSR4

45CSR6

45CSR7

45CSR10

45CSR11

45CSR13

45CSR14

45CSR16

45CSR20

45CSR30

45CSR34

40CFR60 Subpart Z (applies to Furnace #9 all other furnaces are pre-1974)

94-C-1084-7

40CFR63 Subpart XXX



Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40CFR60.265 (applies to Furnace #9 all other furnaces are pre-1974)

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

20. Facility-Wide Applicable Requirements (Continued) - Attach additional pages as necessary.

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

☐ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders

[illegible]

22. Inactive Permits/Obsolete Permit Conditions

[illegible]

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	0.21
Nitrogen Oxides (NO _x)	16.69
Lead (Pb)	0.003
Particulate Matter (PM ₁₀) ¹	265.27
Total Particulate Matter (TSP)	316.31
Sulfur Dioxide (SO ₂)	See note
Volatile Organic Compounds (VOC)	878.99
Hazardous Air Pollutants ²	Potential Emissions
Arsenic	0.001
Cadmium	0.001
Chromium	0.38
Manganese	1.01
Mercury	0.035
Nickel	0.24
Selenium	0.001
Regulated Pollutants other than Criteria and HAP	Potential Emissions
¹ PM ₁₀ is a component of TSP. ² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

Note: Felman utilizes coke as a carbon source instead of coal. The original Title V application used coal to calculate SO₂ emissions. To meet the consent order submittal deadline, Coke SO₂ emissions are not included. Coke SO₂ emissions will be addressed during the technical review. Per AP-42 Section 12.2-2 Reference 4. The factor for SO₂ is based on these representative conditions: (2) about 33 weight % of total sulfur in coal charged to oven is transferred to coke oven gas.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p><u>Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC, and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</u></p> <p><u>The facility has three aboveground storage tanks for which there are no applicable requirements and whose emissions are below the insignificant level. The tanks have been designated as follows:</u></p> <p><u>006-01 500 gal Gasoline Tank (0.23 ton VOC/yr)</u></p> <p><u>006-02 1000 gal Diesel Tank (6.2E-04 ton VOC/yr)</u></p> <p><u>006-03 10,000 gal Diesel Tank (1.24E-03 ton VOC/yr)</u></p> <p><u>Emission rates were estimated using the EPA approved program TANKS2.</u></p> <p><u>006-01 and -02 are used to supply fuel for vehicles. Emissions were conservatively doubled to account for working losses during vehicle refueling operations in addition to losses from the storage tank itself.</u></p> <p><u>006-03 supplies diesel fuel to the Ladle Burners (00C-01) and the six diesel-powered fire pumps.</u></p>

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input checked="" type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry -cleaning and steam boilers.
<input type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input checked="" type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

Note: This Certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name:

Title:

Responsible official's signature:

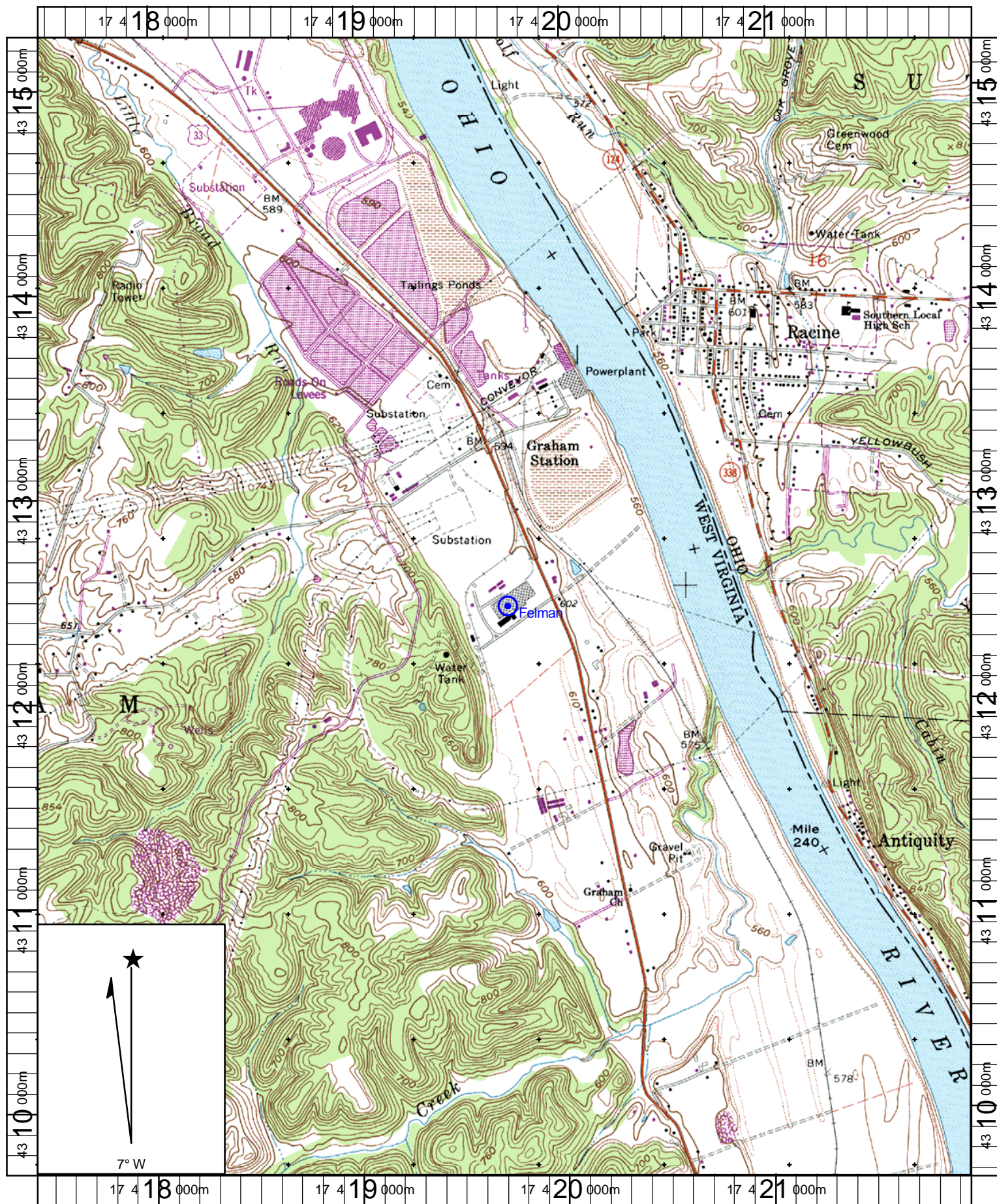
Signature: _____ Signature Date: _____
(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Title V Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)

ATTACHMENT A

AREA MAP

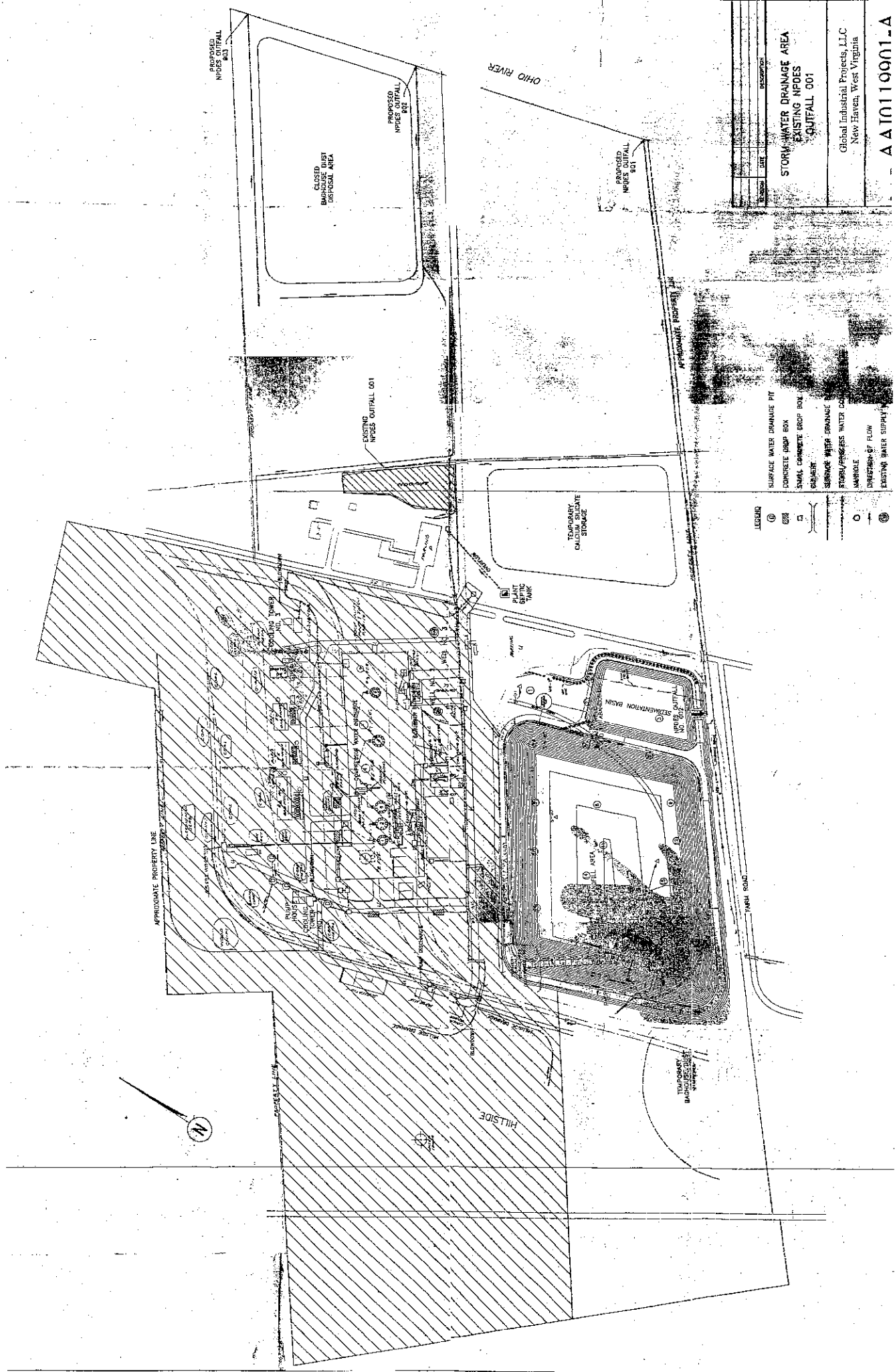


Name: NEW HAVEN
 Date: 4/24/2006
 Scale: 1 inch equals 2000 feet

Location: 17 419705 E 4312465 N
 Caption: Felman Production, Inc.
 Area Map

ATTACHMENT B

PLOT PLAN



- LEGEND**
- ① SURFACE WATER DRAINAGE PIT
 - ② CONCRETE DROP BOX
 - ③ SMALL CONCRETE DROP BOX
 - ④ CULVERT
 - ⑤ STORM/PROCESS WATER DRAINAGE
 - ⑥ STORM/PROCESS WATER CO.
 - ⑦ MANHOLE
 - ⑧ DIRECTION OF FLOW
 - ⑨ EXISTING WATER SUPPLY

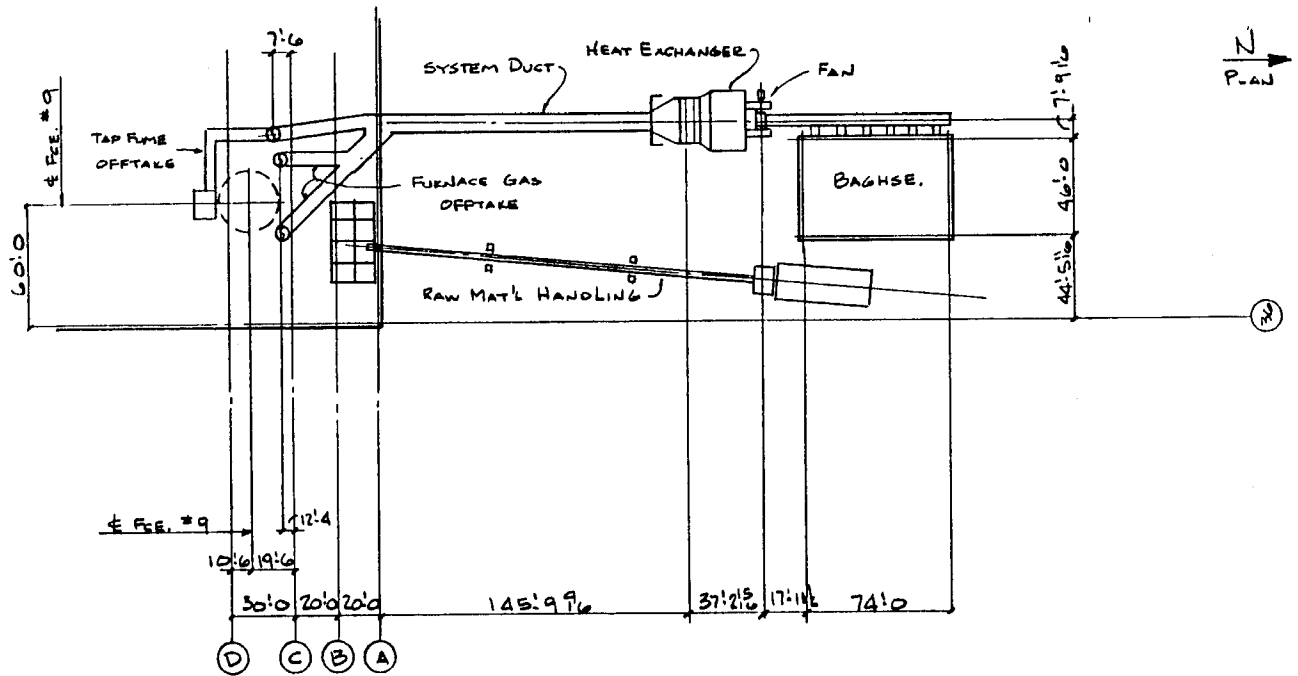
NO.	DATE	DESCRIPTION
1	10/1/01	STORM WATER DRAINAGE AREA
2	10/1/01	EXISTING NPDES OUTFALL 001

Global Industrial Projects, LLC
New Haven, West Virginia

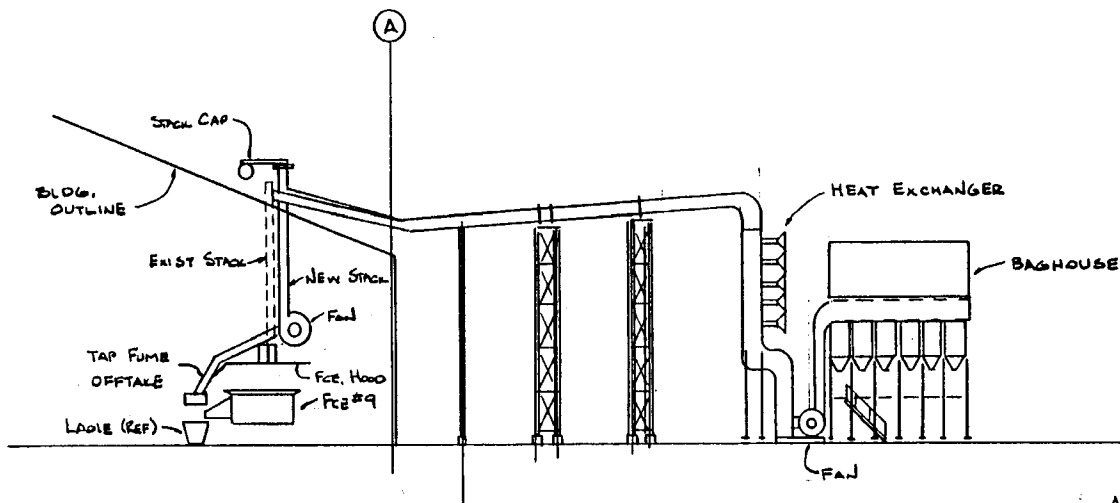
A 10110001-A

ATTACHMENT C

PROCESS FLOW DIAGRAM

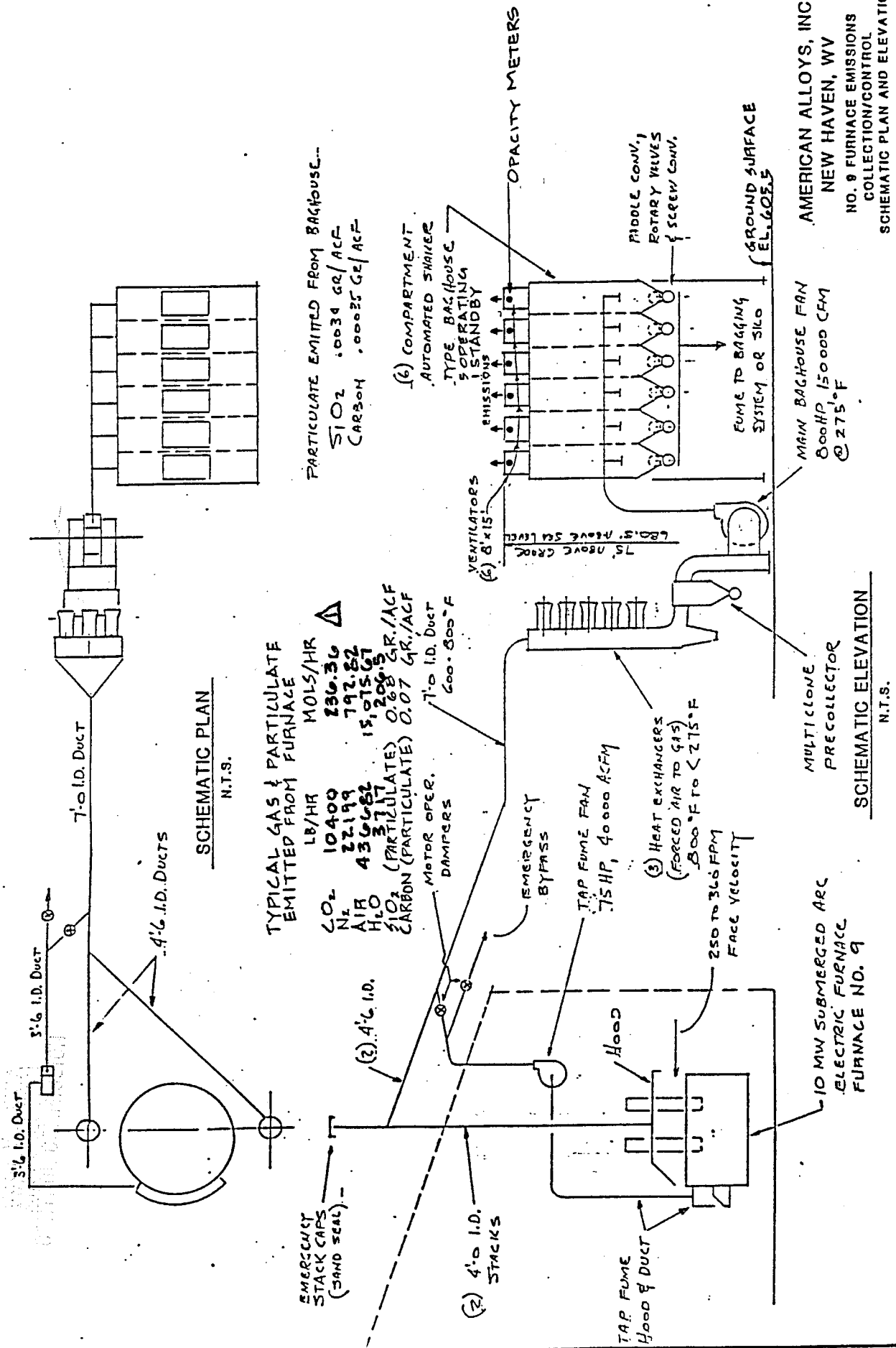


PLAN



ELEVATION

027211 0001



SCHEMATIC PLAN

N.T.S.

TYPICAL GAS & PARTICULATE
EMITTED FROM FURNACE

	LB/HR	MOLES/HR
CO ₂	10400	236.36
N ₂	22199	792.82
AIR	436682	15,075.67
H ₂ O	3717	208.5
SiO ₂ (PARTICULATE)	0.07	0.07 GR./ACF
CARBON (PARTICULATE)	0.07	0.07 GR./ACF

PARTICULATE EMITTED FROM BAGHOUSE--
SiO₂ .0034 GR./ACF
CARBON .00035 GR./ACF

(6) COMPARTMENT
AUTOMATED SHAKER
TYPE BAGHOUSE
5 OPERATING
1 STANDBY

EMERGENCY
BYPASS

TAP FUME FAN
7.5 HP, 40,000 ACFM

(3) HEAT EXCHANGERS
(FORCED AIR TO GAS)
800°F to <275°F

250 TO 360 FPM
FACE VELOCITY

10 MW SUBMERGED ARC
ELECTRIC FURNACE
FURNACE NO. 9

MULTICLONE
PRECOLLECTOR

SCHEMATIC ELEVATION

N.T.S.

MAIN BAGHOUSE FAN
800 HP 150,000 CFM
@ 275°F

FUME TO BAGGING
SYSTEM OR SILO

MIDDLE CONV.,
ROTARY VALVES
& SCREW CONV.

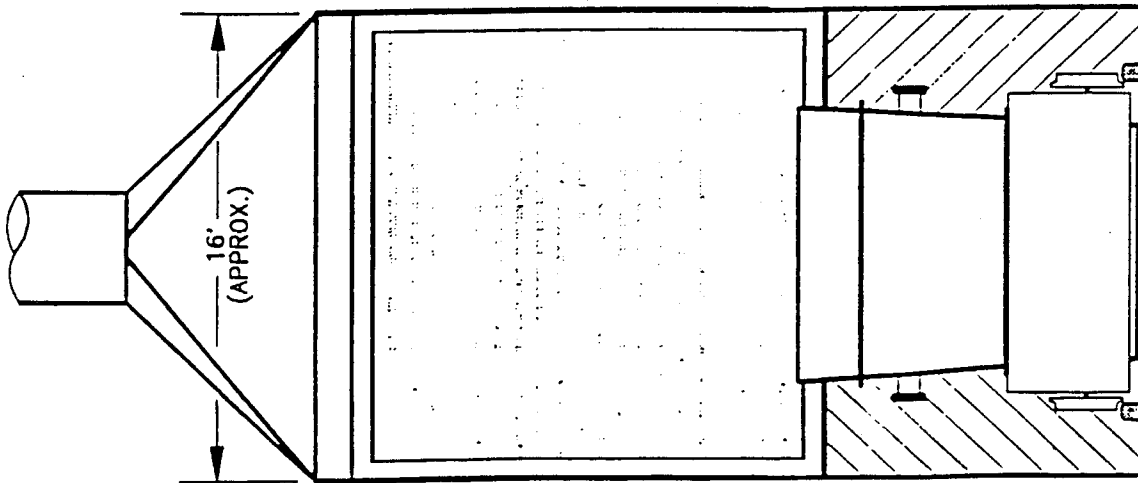
OPACITY METERS

VENTILATORS
(6) 8' x 15'

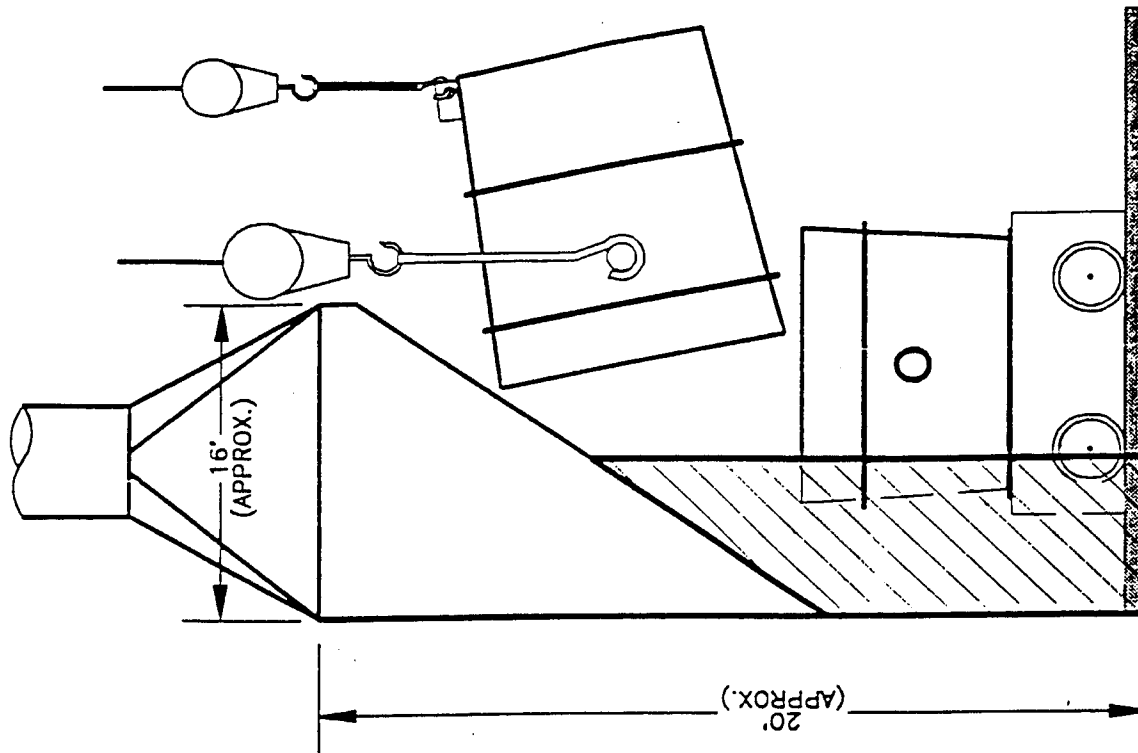
7.5' ABOVE GROUND
60.5' ABOVE SEA LEVEL

AMERICAN ALLOYS, INC.
NEW HAVEN, WV
NO. 9 FURNACE EMISSIONS
COLLECTION/CONTROL
SCHEMATIC PLAN AND ELEVATION

REV A 4-7-89 JWK



FRONT VIEW--
POUR LADLE NOT SHOWN
(NOT TO SCALE)



SIDE VIEW
(NOT TO SCALE)

NOT FOR CONSTRUCTION

**CONCEPTUAL EXHAUST HOOD CONFIGURATION
FOR REPOUR OPERATIONS**
AMERICAN ALLOYS, INC.



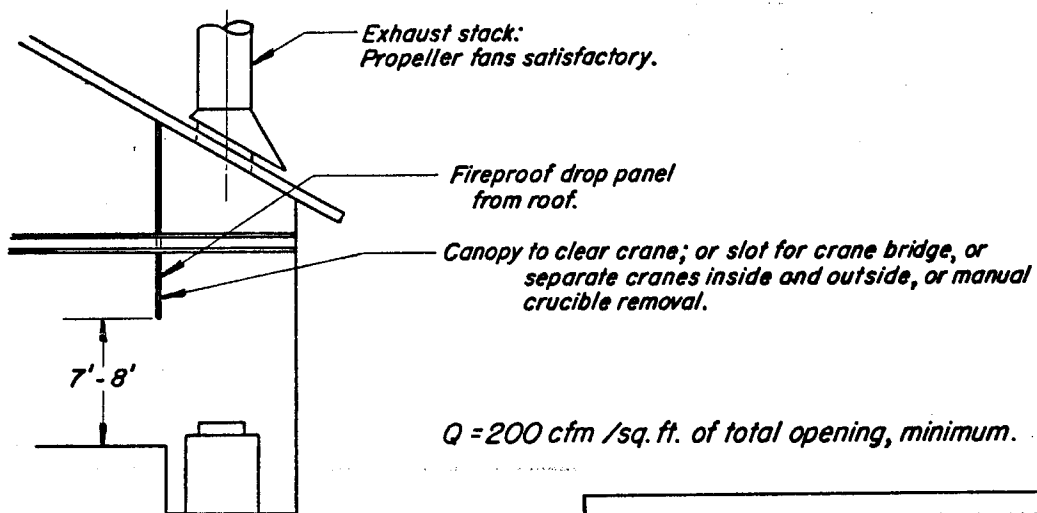
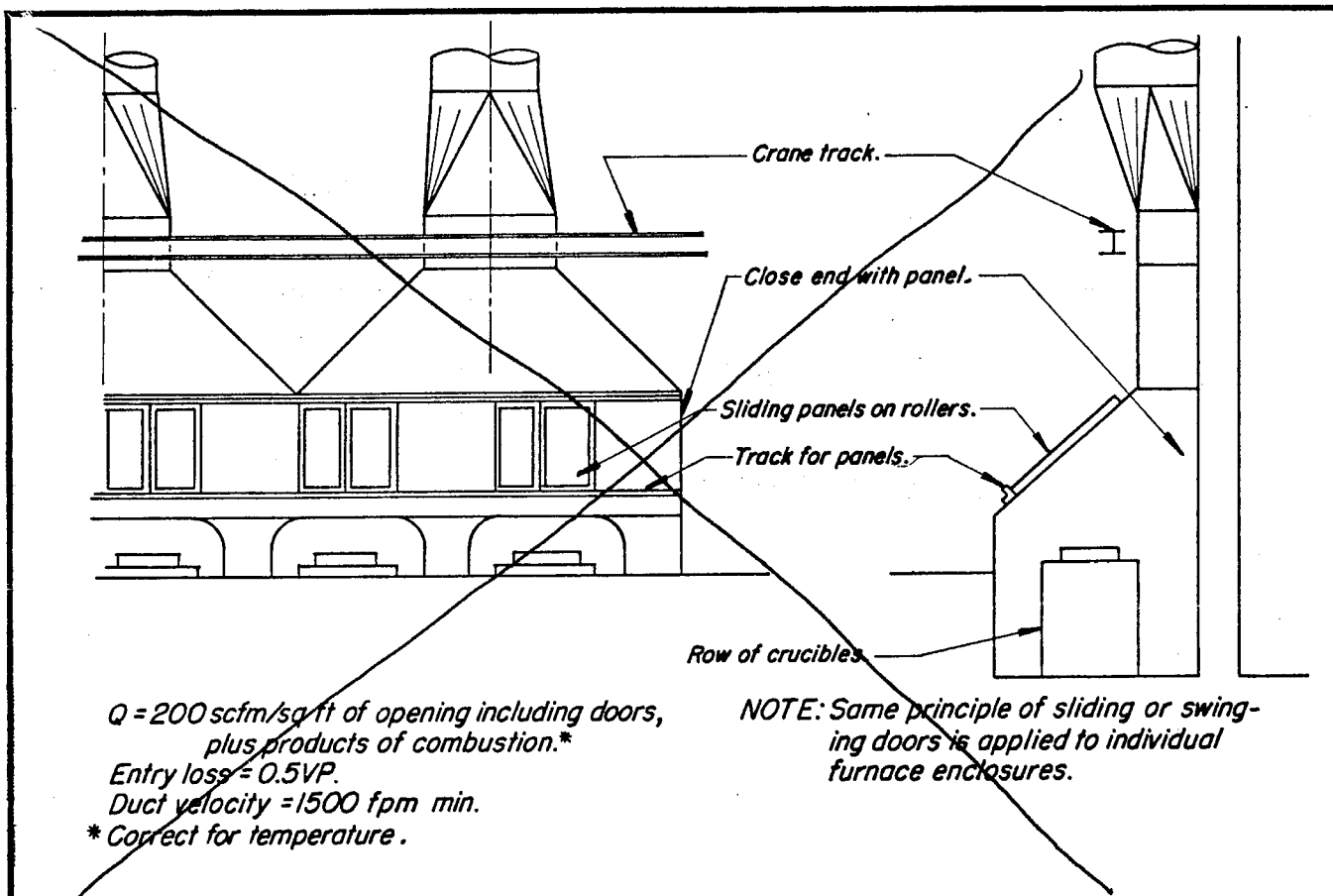
	DRAWN BY: BLG
	APPROVED BY: 
	DATE: MARCH 1993
	PROJ. # 2708.01
	FILE # 27080102

Figure 2 - PROPOSED SIDE DRAFT HOOD FOR REPOURING

NON CONFIDENTIAL



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MELTING FURNACE
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DATE 1-58

VS-20A

ATTACHMENT D

TITLE V EQUIPMENT TABLE

ATTACHMENT D - Title V Equipment Table
(includes all emission units at the facility except those designated as
insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/Modified
001	BH 2	01	No. 2 Furnace	32 MW	
001	BH5	02	No. 5 Furnace	20 MW	
001	BH 7	03	No. 7 Furnace	20 MW	
001	BH 9	04	No. 9 Furnace	8 MW	
002		0B	Outdoor Storage Piles	3 Acres	
005		01	Unpaved Road – Raw Material Delivery		
005		02	Unpaved Road – Gravel Delivery		
005		03	Unpaved Road – Wood Chips Delivery		
005		04	Unpaved Road – Scrap Metal Delivery		
005		05	Unpaved Road – Product Shipments		
005		06	Unpaved Road – Raw Material Transfer		
005		07	Unpaved Road – Endloaders		
009	BH	01	Crushing – Primary, Secondary, Tertiary		
009	BH	02	Crushing – Primary, Secondary		
009	BH	03	Crushing – Primary, Secondary, Tertiary		
009	BH	04	Crushing – Primary, Secondary, Tertiary		
009		06	Transfer Points		
00A	BH	01	Product Casting		
00B	MGO BH	01	Plunging and Stirring Operations		
00B	MGO BH	02	Plunging and Stirring Operations		
00C		01	Ladle Burners		

¹For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E

EMISSION UNIT FORMS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 00A-01	Emission unit name: Product Casting Operation	List any control devices associated with this emission unit. Baghouses
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
This emission unit quantifies emissions from the casting of molten ferroalloy product. Casting is carried out on four large casting wheels; one dedicated to each of the four submerged electric arc furnaces. Emissions from casting operations are controlled by the same baghouses used to control emissions from the furnaces.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.44	0.19
Total Particulate Matter (TSP)	0.44	0.19
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emission factor for ferroalloy casting was obtained from the Ohio EPA Study, "Reasonably Available Control Measures for Fugitive Dust Sources", September 1980, Ohio Environmental Protection Agency, Division for Air Pollution Control. Emission factor is as follows:

2.4 lb/ton processed.

Emissions from casting are fugitive within the building and based on observation and engineering judgement, approximately 20% of emissions are release through the roof monitors. The remaining 80% is captured by the baghouses. Therefore, emission factor is as follows:

$2.4 \text{ lb/ton} \times (1-0.80) = 0.48 \text{ lb/ton}$.

Conservatively assume all PM is PM10.

TSP - Emission factor for ferroalloy casting was obtained from the Ohio EPA Study, "Reasonably Available Control Measures for Fugitive Dust Sources", September 1980, Ohio Environmental Protection Agency, Division for Air Pollution Control. Emission factor is as follows:

2.4 lb/ton processed.

Emissions from casting are fugitive within the building and based on observation and engineering judgement, approximately 20% of emissions are release through the roof monitors. The remaining 80% is captured by the baghouses. Therefore, emission factor is as follows:

$2.4 \text{ lb/ton} \times (1-0.80) = 0.48 \text{ lb/ton}$.

Conservatively assume all PM is PM10.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 00B-01	Emission unit name: Stir Station – Furnace #10	List any control devices associated with this emission unit. MGO Baghouse
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Molten ferroalloy from the submerged electric arc furnaces is transferred to the stir station prior to casting. (This station is also referred to as Furnace 10.) Additional slag is removed from the surface of the molten alloy and the remaining alloy is stirred to maintain a uniform distribution of ingredients. Emissions from the stir station are controlled by the MGO Baghouse.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	2.22	9.74
Total Particulate Matter (TSP)	8.90	38.97
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emission factor for ferroalloy stirring was obtained from the Ohio EPA Study, "Reasonably Available Control Measures for Fugitive Dust Sources", September 1980, Ohio Environmental Protection Agency, Division for Air Pollution Control. Emission factor is as follows:

12.0 lb/ton processed.

Emissions from stirring are controlled by the MGO Baghouse and based on observation and engineering judgement, approximately 20% of emissions are released through the roof monitors. The remaining 80% enters the capture hood and is controlled by the baghouse. Therefore, emission factor is as follows:

$12.0 \text{ lb/ton} \times 0.20 = 2.4 \text{ lb/ton}$.

Conservatively assume all PM is PM10.

TSP - Emission factor for ferroalloy stirring was obtained from the Ohio EPA Study, "Reasonably Available Control Measures for Fugitive Dust Sources", September 1980, Ohio Environmental Protection Agency, Division for Air Pollution Control. Emission factor is as follows:

12.0 lb/ton processed.

Emissions from stirring are controlled by the MGO Baghouse and based on observation and engineering judgement, approximately 20% of emissions are released through the roof monitors. The remaining 80% enters the capture hood and is controlled by the baghouse. Therefore, emission factor is as follows:

$12.0 \text{ lb/ton} \times 0.20 = 2.4 \text{ lb/ton}$.

Conservatively assume all PM is PM10.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 00B-02	Emission unit name: Plunge Station	List any control devices associated with this emission unit. MGO Baghouse
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Ferroalloy product composition is tested and adjusted (if needed) by plunging additional raw materials in the ladles. In addition, small batches of specialty ferroalloys such as ferromanganese are made by plunging additional ingredients into the ladles. Emissions from the Plung Station are controlled by the MGO Baghouse.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	4.47	19.57
Total Particulate Matter (TSP)	4.47	19.57
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions from plunge station were estimated assuming an exit grain loading for the MGO Baghouse of 0.01 gr/dscf. Uncontrolled emissions were calculated as follows:

$$0.01 \text{ gr/dscf} / (1 - 0.995) = 2.0 \text{ gr/dscf}$$

Baghouse flowrate is 52131 SCFM. Conservatively assume all PM is PM10.

TSP - Emissions from plunge station were estimated assuming an exit grain loading for the MGO Baghouse of 0.01 gr/dscf. Uncontrolled emissions were calculated as follows:

$$0.01 \text{ gr/dscf} / (1 - 0.995) = 2.0 \text{ gr/dscf}$$

Baghouse flowrate is 52131 SCFM.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 00C-01	Emission unit name: Ladle burners	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Ladle burners are used to heat/reheat ladles containing molten ferroalloy. The ladle burners fire no. 2 oil.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput: 44,000 gallons	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? ___ Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 No. 2 Fuel Oil

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
No. 2 Fuel Oil			140MMBtu / 1000 gal

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.0479	0.21
Nitrogen Oxides (NO _x)	0.10	0.44
Lead (Pb)		
Particulate Matter (PM ₁₀)	4.47	19.57
Total Particulate Matter (TSP)	4.47	19.57
Sulfur Dioxide (SO ₂)	0.069	0.30
Volatile Organic Compounds (VOC)	0.003	0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emission factor for PM = 2 lb/1000 gal burned

44,000 gal/yr used

50% of PM is PM-10

Therefore, PM10 emission factor = 1 lb/1000 gal.

TSP - Emission factor = 2 lb/1000 gal burned

44,000 gal/yr used

SO₂ - Emission factor = 142S lb/1000 gal burned

44,000 gal/yr used

S = 0.05%

Emission Factor = 7.1 lb/1000 gal burned

VOC - Emission factor = 0.34 lb/1000 gal burned

44,000 gal/yr used

NO_x - Emission factor = 20 lb/1000 gal burned

44,000 gal/yr used

CO - Emission factor = 5 lb/1000 gal burned

44,000 gal/yr used

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:
001-01

Emission unit name:
Furnace 02

List any control devices associated with this emission unit.
Baghouse 02

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

This is a submerged electric arc furnace used in the production of 75% FeSi ferroalloy which operates continuously. Raw materials are added to the furnace at regular intervals. Emissions from this unit are controlled by the No. 2 Baghouse.

Manufacturer:
Elkem

Model number:

Serial number:

Construction date:
01/01/1966

Installation date:
01/01/1966

Modification date(s):
MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 32 MW
8.2 tons/hr production rate

Maximum Hourly Throughput:

Maximum Annual Throughput:

Maximum Operating Schedule:
8760 hr/yr

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes X No

If yes, is it?

___ Indirect Fired ___ Direct Fired

Maximum design heat input and/or maximum horsepower rating:

Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)	1.64	7.19
Lead (Pb)	0.000007	0.00003
Particulate Matter (PM ₁₀)	4.73	20.75
Total Particulate Matter (TSP)	4.73	20.75
Sulfur Dioxide (SO ₂)	243.46	1067.78
Volatile Organic Compounds (VOC)	51.30	255.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	0.00071	0.00031
Cadmium	0.00071	0.00031
Chromium	0.03	0.13
Manganese	0.08	0.34
Mercury	0.0012	0.0052
Nickel	0.02	0.08
Selenium	0.000071	0.00031
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

CO - No published emission factor for CO was found. AP-42 indicates that all CO reacts above the furnace to form CO₂.

NO_x - No emission factor for NO_x from ferroalloy furnaces were found. Emission factor was obtained from AP-42, 4th Edition, Table 7.13-1 for electric arc furnaces used in steel foundries.

Total particulate matter emission factor = 344 lb/ton. Lead in baghouse dust = 25 ppm. Therefore, emission factor = 344 lb PM/ton x 0.000025 lb Pb/lb PM = 0.000160 lb/ton.

PM₁₀ - Assume 63% of PM is PM₁₀ (same as 50% FeSi production)

TSP – AP42

SO₂ - Emissions based on material balance.
Assume 97% of sulfur furnace exits to air as SO₂.

Coal used = 57,355,700 lb/yr, Avg. %S (by wt) = 0.76% , SO₂ emissions = 422.8 ton/yr
Charcoal used = 0 lb/yr, Avg. %S (by wt) = 0.10% , SO₂ emissions = 0 ton/yr
Coke used = 1,120,780 lb/yr, Avg. %S (by wt) = 0.85% , SO₂ emissions = 9.2 ton/yr
Total SO₂ emissions = 432.0 ton/yr

VOC – AP42

Total particulate matter emission factor = 344 lb/ton. Arsenic in baghouse dust = 5 ppm. Therefore, emission factor = 344 lb PM/ton x 0.000005 lb As/lb PM = 0.001720 lb/ton.

Total particulate matter emission factor = 344 lb/ton. Cadmium in baghouse dust = 5 ppm. Therefore, emission factor = 344 lb PM/ton x 0.000005 lb Cd/lb PM = 0.001720 lb/ton.

Total particulate matter emission factor = 344 lb/ton. Chromium in baghouse dust = 2000 ppm. Therefore, emission factor = 344 lb PM/ton x 0.002000 lb Cr/lb PM = 0.688000 lb/ton.

Total particulate matter emission factor = 344 lb/ton. Manganese in baghouse dust = 5500 ppm. Therefore, emission factor = 344 lb PM/ton x 0.005500 lb Mn/lb PM = 1.892000 lb/ton.

Total particulate matter emission factor = 344 lb/ton. Mercury in baghouse dust = 250 ppm. Therefore, emission factor = 344 lb PM/ton x 0.000005 lb Hg/lb PM = 0.086000 lb/ton.

Total particulate matter emission factor = 344 lb/ton. Nickel in baghouse dust = 1300 ppm. Therefore, emission factor = 344 lb PM/ton x 0.001300 lb Ni/lb PM = 0.447200 lb/ton.

Total particulate matter emission factor = 344 lb/ton. Selenium in baghouse dust = 5 ppm. Therefore, emission factor = 344 lb PM/ton x 0.000005 lb Se/lb PM = 0.001720 lb/ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

45CSR10

b.01 d A performance test will be performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45CSR7 - Smoke and/or particulate matter emissions from this unit shall not exceed the limits of this provision. The baghouse will be regularly inspected and maintained to ensure compliance with this standard. If daily visual observations of the baghouse exhaust indicate visible emissions, corrective action will be taken.

Subsection 4.8 exempts this unit from the provisions of subsection 4.1 since all furnaces are considered duplicate source operations and are controlled by baghouses achieving greater than 99% control efficiency. Regular baghouse inspection and maintenance will ensure that the control efficiency remains at or above 99%.

45CSR10 - Compliance with this standard is guaranteed by the sulfur content of the raw materials used to charge the furnaces.

b.01 d A performance test was performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-02	Emission unit name: Furnace 05	List any control devices associated with this emission unit. Baghouse 05
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This is a submerged electric arc furnace used in the production of 75% FeSi ferroalloy which operates continuously. Raw materials are added to the furnace at regular intervals. Emissions from this unit are controlled by the No. 5 Baghouse.

Manufacturer: Lectromelt	Model number:	Serial number:
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Construction date: 01/01/1974	Installation date: 01/01/1974	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 20 MW
 4.2 tons/hr production rate

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)	0.84	3.68
Lead (Pb)	0.00012	0.00052
Particulate Matter (PM ₁₀)	4.73	20.75
Total Particulate Matter (TSP)	4.73	20.75
Sulfur Dioxide (SO ₂)	89.44	391.72
Volatile Organic Compounds (VOC)	18.46	80.85
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	0.00003	0.00012
Cadmium	0.00003	0.00012
Chromium	0.01	0.05
Manganese	0.03	0.12
Mercury	0.0012	0.0052
Nickel	0.0062	0.027
Selenium	0.00003	0.00012
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

CO - No published emission factor for CO was found. AP-42 indicates that all CO reacts above the furnace to form CO₂.

NO_x - No emission factor for NO_x from ferroalloy furnaces were found. Emission factor was obtained from AP-42, 4th Edition, Table 7.13-1 for electric arc furnaces used in steel foundries.

Lead - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Lead in baghouse dust = 25 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.000025 \text{ lb Pb/lb PM} = 0.000028 \text{ lb/ton}$

PM₁₀ - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Conservatively assume all PM is PM₁₀.

TSP - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting.

SO₂ - Assume 97% of sulfur furnace exits to air as SO₂.

Coal used = 42,451,038 lb/yr, Avg. %S (by wt) = 0.76%, SO₂ emissions = 312.9 ton/yr

Charcoal used = 0 lb/yr, Avg. %S (by wt) = 0.10%, SO₂ emissions = 0 ton/yr

Coke used = 465,154 lb/yr, Avg. %S (by wt) = 0.85%, SO₂ emissions = 3.8 ton/yr

Total SO₂ emissions = 316.7 ton/yr

VOC – AP42

Arsenic - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Arsenic in baghouse dust = 5 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.000005 \text{ lb As/lb PM} = 0.000006 \text{ lb/ton}$

Cadmium - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Cadmium in baghouse dust = 5 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.000005 \text{ lb Cd/lb PM} = 0.000006 \text{ lb/ton}$

Chromium - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Chromium in baghouse dust = 2000 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.002255 \text{ lb Cr/lb PM} = 0.002255 \text{ lb/ton}$

Manganese - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Manganese in baghouse dust = 5500 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.005500 \text{ lb Mn/lb PM} = 0.006202 \text{ lb/ton}$

Mercury - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Mercury in baghouse dust = 250 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.000250 \text{ lb Hg/lb PM} = 0.000282 \text{ lb/ton}$

Nickel - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Nickel in baghouse dust = 1300 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.001300 \text{ lb Ni/lb PM} = 0.001466 \text{ lb/ton}$

Selenium - Emission factor based on stack test results which indicate 4.1 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8183 hr/yr operation, 28750 ton/yr alloy produced) and includes emissions from product casting. Selenium in baghouse dust = 5 ppm. Therefore, emissions = $1.1277 \text{ lb PM/ton} \times 0.000005 \text{ lb Se/lb PM} = 0.000006 \text{ lb/ton}$

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

45CSR10

b.01 d A performance test will be performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45CSR7 - Smoke and/or particulate matter emissions from this unit shall not exceed the limits of this provision. The baghouse will be regularly inspected and maintained to ensure compliance with this standard. If daily visual observations of the baghouse exhaust indicate visible emissions, corrective action will be taken.

Subsection 4.8 exempts this unit from the provisions of subsection 4.1 since all furnaces are considered duplicate source operations and are controlled by baghouses achieving greater than 99% control efficiency. Regular baghouse inspection and maintenance will ensure that the control efficiency remains at or above 99%.

45CSR10 - Compliance with this standard is guaranteed by the sulfur content of the raw materials used to charge the furnaces.

b.01 d A performance test was performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-03	Emission unit name: Furnace 07	List any control devices associated with this emission unit. Baghouse 07
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This is a submerged electric arc furnace used in the production of either 50% or 75% FeSi ferroalloy which operates continuously. Raw materials are added to the furnace at regular intervals. Emissions from this unit are controlled by the No. 7 Baghouse.

Manufacturer: Lectromelt	Model number:	Serial number:
Construction date: 01/01/1976	Installation date: 01/01/1976	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 20 MW
 4.2 tons/hr production rate

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)	0.84	3.68
Lead (Pb)	0.00026	0.0012
Particulate Matter (PM ₁₀)	10.06	44.06
Total Particulate Matter (TSP)	10.06	44.06
Sulfur Dioxide (SO ₂)	111.93	490.24
Volatile Organic Compounds (VOC)	24.15	105.78
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	0.00005	0.00022
Cadmium	0.00005	0.00022
Chromium	0.02	0.09
Manganese	0.06	0.25
Mercury	0.0026	0.011
Nickel	0.013	0.058
Selenium	0.00005	0.00022
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

CO - No published emission factor for CO was found. AP-42 indicates that all CO reacts above the furnace to form CO₂.

NO_x - No emission factor for NO_x from ferroalloy furnaces were found. Emission factor was obtained from AP-42, 4th Edition, Table 7.13-1 for electric arc furnaces used in steel foundries.

Lead - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Lead in baghouse dust = 0.000025 ppm. Therefore, 2.395 lb PM/ton x 0.000025 lb Pb/lb PM = 0.000060 lb/ton.

PM₁₀ - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Conservatively assume all PM is PM₁₀.

TSP - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting.

SO₂ - Assume 97% of sulfur present in coal is emitted to the air as SO₂.

Coal used = 40,234,948 lb/yr, Avg %S (by wt) = 0.76%, SO₂ emissions from coal = 296.6 ton/yr

Charcoal used = 0 lb/yr, Avg. %S (by wt) = 0.10%, SO₂ emissions = 0 ton/yr

Coke used = 461,841 lb/yr, Avg. %S (by wt) = 0.85%, SO₂ emissions = 3.8 ton/yr

Total SO₂ emissions = 300.4 ton/yr

VOC – AP42

Arsenic - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Arsenic = 2.395 lb PM/ton x 0.000005 lb As/lb PM = 0.000012 lb As/ton.

Cadmium - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Cadmium = 2.395 lb PM/ton x 0.000005 lb Cd/lb PM = 0.000012 lb Cd/ton.

Chromium - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Chromium = 2.395 lb PM/ton x 0.002000 lb Cr/lb PM = 0.004790 lb Cr/ton.

Manganese - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Manganese = 2.395 lb PM/ton x 0.005500 lb Mn/lb PM = 0.013173 lb Mn/ton.

Mercury - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Mercury = 2.395 lb PM/ton x 0.000250 lb Hg/lb PM = 0.000599 lb Hg/ton.

Nickel - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Nickel = 2.395 lb PM/ton x 0.001300 lb Ni/lb PM = 0.003114 lb Ni/ton.

Selenium - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Selenium = 2.395 lb PM/ton x 0.002000 lb Se/lb PM = 0.004790 lb Se/ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

45CSR10

b.01 d A performance test will be performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45CSR7 - Smoke and/or particulate matter emissions from this unit shall not exceed the limits of this provision. The baghouse will be regularly inspected and maintained to ensure compliance with this standard. If daily visual observations of the baghouse exhaust indicate visible emissions, corrective action will be taken.

Subsection 4.8 exempts this unit from the provisions of subsection 4.1 since all furnaces are considered duplicate source operations and are controlled by baghouses achieving greater than 99% control efficiency. Regular baghouse inspection and maintenance will ensure that the control efficiency remains at or above 99%.

45CSR10 - Compliance with this standard is guaranteed by the sulfur content of the raw materials used to charge the furnaces.

b.01 d A performance test was performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-04	Emission unit name: Furnace 09	List any control devices associated with this emission unit. Baghouse 09
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This is a submerged electric arc furnace used in the production of Si metal. Furnace operates under Permit No. R-XIII-1110 (dated 9 June 1989) and is controlled by the No. 9 Baghouse.

Manufacturer: Lectromelt/AA	Model number:	Serial number:
Construction date: 01/01/1989	Installation date: 01/01/1989	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 8 MW
 2.2 tons/hr production rate

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)	0.39	1.7
Lead (Pb)	0.00031	0.0014
Particulate Matter (PM ₁₀)	12.37	54.16
Total Particulate Matter (TSP)	12.37	54.16
Sulfur Dioxide (SO ₂)	58.88	257.87
Volatile Organic Compounds (VOC)	99.85	437.34
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	0.00007	0.00028
Cadmium	0.000062	0.00028
Chromium	0.025	0.11
Manganese	0.07	0.30
Mercury	0.003	0.014
Nickel	0.016	0.07
Selenium	0.000062	0.00028
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

CO - No published emission factor for CO was found. AP-42 indicates that all CO reacts above the furnace to form CO₂.

NO_x - No emission factor for NO_x from ferroalloy furnaces were found. Emission factor was obtained from AP-42, 4th Edition, Table 7.13-1 for electric arc furnaces used in steel foundries.

Lead - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from casting. Lead in baghouse dust = 25 ppm. Therefore, 6.39 lb PM/ton x 0.000025 lb Pb/lb PM = 0.000160 lb/ton

PM₁₀ - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from casting. Conservatively assume all PM is PM₁₀.

TSP - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from product casting.

SO₂ - Assume 97% of sulfur furnace exits to air as SO₂.

Coal used = 6,767,774 lb/yr, Avg. %S (by wt) = 0.76%, SO₂ emissions from coal = 49.9 ton/yr

Charcoal used = 1,599,500 lb/yr, Avg. %S (by wt) = 0.10%, SO₂ emissions = 1.5 ton/yr

Coke used = 0 lb/yr, Avg. %S (by wt) = 0.85%, SO₂ emissions = 0 ton/yr

VOC – AP42

Arsenic - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from product casting. No. 9 Furnace baghouse dust was analyzed. Arsenic = 5 ppm. Therefore, emission factor = 6.39 lb PM/ton produced x (0.000005 lb As/lb) = 0.000032 lb/ton.

Cadmium - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from product casting. No. 9 Furnace baghouse dust was analyzed. Chromium = 2000 ppm. Therefore, emission factor = 6.39 lb PM/ton produced x (0.002000 lb Cr/lb) = 0.012780 lb/ton.

Chromium - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Chromium = 2.395 lb PM/ton x 0.002000 lb Cr/lb PM = 0.004790 lb Cr/ton.

Manganese - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from product casting. No. 9 Furnace baghouse dust was analyzed. Mercury = 250 ppm. Therefore, emission factor = 6.39 lb PM/ton produced x (0.000250 lb Hg/lb) = 0.001598 lb/ton.

Mercury - Emission factor based on stack test results which indicate 6.6 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (8181 hr/yr operation, 22550 ton/yr alloy produced) and includes emissions from product casting. Emissions from Mercury = 2.395 lb PM/ton x 0.000250 lb Hg/lb PM = 0.000599 lb Hg/ton.

Nickel - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from product casting. No. 9 Furnace baghouse dust was analyzed. Nickel = 1300 ppm. Therefore, emission factor = 6.39 lb PM/ton produced x (0.001300 lb As/lb) = 0.008307 lb/ton.

Selenium - Emission factor based on stack test results which indicate 3.81 lb/hr (controlled) of particulate matter.

Emission factor was derived using actual production data for this furnace (5674 hr/yr operation, 3383 ton/yr alloy produced) and includes emissions from product casting. No. 9 Furnace baghouse dust was analyzed. Selenium = 5 ppm. Therefore, emission factor = 6.39 lb PM/ton produced x (0.000005 lb Se/lb) = 0.000032 lb/ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

45CSR10

b.01 d A performance test will be performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45CSR7 - Smoke and/or particulate matter emissions from this unit shall not exceed the limits of this provision. The baghouse will be regularly inspected and maintained to ensure compliance with this standard. If daily visual observations of the baghouse exhaust indicate visible emissions, corrective action will be taken.

Subsection 4.8 exempts this unit from the provisions of subsection 4.1 since all furnaces are considered duplicate source operations and are controlled by baghouses achieving greater than 99% control efficiency. Regular baghouse inspection and maintenance will ensure that the control efficiency remains at or above 99%.

45CSR10 - Compliance with this standard is guaranteed by the sulfur content of the raw materials used to charge the furnaces.

b.01 d A performance test was performed for No. 2 Furnace in accordance with the Consent Judgement entered on 20 April 1994.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 002-0B	Emission unit name: Outdoor Storage Piles	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Raw materials are stored outside of the main facility building on approximately three acres of land.

Manufacturer:	Model number:	Serial number:
Construction date: 01/01/1952	Installation date: 01/01/1952	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 3 acres

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.44	1.93
Total Particulate Matter (TSP)	0.44	1.93
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions from raw material storage piles based on WV emission factor of 3.5 lb/acre/day. Emissions were calculated as follows:

$$\text{lb/hr} = (3.5 \text{ lb/acre/day})(3 \text{ acres})/(24 \text{ hr/day}) = 0.4375 \text{ lb/hr}$$

$$\text{ton/yr} = (3.5 \text{ lb/acre/day})(3 \text{ acres})(365 \text{ day/yr})/(2000 \text{ lb/ton}) = 1.92 \text{ ton/yr}$$

and conservatively assume all PM is PM10.

TSP - Emissions from raw material storage piles based on WV emission factor of 3.5 lb/acre/day. Emissions were calculated as follows:

$$\text{lb/hr} = (3.5 \text{ lb/acre/day})(3 \text{ acres})/(24 \text{ hr/day}) = 0.44 \text{ lb/hr}$$

$$\text{ton/yr} = (3.5 \text{ lb/acre/day})(3 \text{ acres})(365 \text{ day/yr})/(2000 \text{ lb/ton}) = 1.92 \text{ ton/yr}$$

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-01	Emission unit name: Unpaved Roads – Coal Delivery	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during coal delivery.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.02	0.099
Total Particulate Matter (TSP)	0.05	0.221
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$ Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(2.945 \text{ lb/hr})(0.36)/(0.80) = 1.325 \text{ lb/hr}$.

TSP - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor is $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-02	Emission unit name: Unpaved Roads – Gravel Delivery	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during gravel delivery.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.06	0.25
Total Particulate Matter (TSP)	0.13	0.56
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(2.945 \text{ lb/hr})(0.36)/(0.80) = 1.325 \text{ lb/hr}$.

TSP - Emissions es timated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-03	Emission unit name: Unpaved Roads – Woodchips Delivery	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during woodchip delivery.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.15	0.68
Total Particulate Matter (TSP)	0.34	1.50
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(2.945 \text{ lb/hr})(0.36)/(0.80) = 1.325 \text{ lb/hr}$.

TSP - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-04	Emission unit name: Unpaved Roads – Scrap Metal Delivery	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during scrap metal delivery.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.06	0.25
Total Particulate Matter (TSP)	0.13	0.56
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(2.945 \text{ lb/hr})(0.36)/(0.80) = 1.325 \text{ lb/hr}$.

TSP - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$. Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(2.945 \text{ lb/hr})(0.36)/(0.80) = 1.325 \text{ lb/hr}$.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-05	Emission unit name: Unpaved Roads – Product Shipments	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during product shipments.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.24	1.05
Total Particulate Matter (TSP)	0.53	2.34
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(2.945 \text{ lb/hr})(0.36)/(0.80) = 1.325 \text{ lb/hr}$.

TSP - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $5.89 \text{ lb/VMT} \times (1 - 0.50) = 2.945 \text{ lb/VMT}$.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-06	Emission unit name: Unpaved Roads – Trucks Within Facility	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during raw material transfer from storage piles to the facility by two trucks.

Manufacturer:	Model number:	Serial number:
Construction date:	Installation date:	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	1.35	5.91
Total Particulate Matter (TSP)	3.00	13.14
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $0.98 \text{ lb/VM} \times (1 - 0.50) = 0.49 \text{ lb/VM}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(0.49 \text{ lb/hr})(0.36)/(0.80) = 0.2205 \text{ lb/hr}$.

TSP - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $0.98 \text{ lb/VM} \times (1 - 0.50) = 0.49 \text{ lb/VM}$.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005-07	Emission unit name: Unpaved Roads – Endloaders	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 This emission unit quantifies emissions caused by vehicle traffic occurring during raw material transfer by two front-end loaders.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired __ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	2.19	9.59
Total Particulate Matter (TSP)	4.87	21.32
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $1.59 \text{ lb/VMT} \times (1 - 0.50) = 0.795 \text{ lb/VMT}$. Particle size multiplier for PM10 is 0.36. Therefore, PM10 emissions = $(0.795 \text{ lb/hr})(0.36)/(0.80) = 0.35775 \text{ lb/hr}$.

TSP - Emissions estimated using the method described in AP-42 5th Edition, Chapter 13.2.2 and assuming a 50% control efficiency since roadways are sprayed regularly to keep dust down. Particle size multiplier for PM is 0.80. Emission factor = $1.59 \text{ lb/VMT} \times (1 - 0.50) = 0.795 \text{ lb/VMT}$.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes ___ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 009-01	Emission unit name: No. 1 Crushing System	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The No. 1 Crushing System consists of a primary, secondary, and tertiary crushing system, and screening operations used to size the ferroalloy according to buyer specifications prior to shipment. Emissions from this operation are controlled by three baghouses operating in parallel.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.13	0.58
Total Particulate Matter (TSP)	0.13	0.58
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Crushing System No. 1 which consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

TSP - Crushing System No. 1 which consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

Particulate matter from this system is controlled by three baghouses in parallel. This stream represents one-third of the total emissions from this unit. Therefore, emission factor = (1/3) X 26.1 = 8.7 lb/ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 009-02	Emission unit name: No. 2 Crushing System	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The No. 2 Crushing System consists of a primary, secondary, and tertiary crushing system, and screening operations used to size the ferroalloy according to buyer specifications prior to shipment. Emissions from this operation are controlled by two baghouses operating in parallel.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.51	2.24
Total Particulate Matter (TSP)	0.51	2.24
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Crushing System No. 2 consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

Particulate matter from this system is controlled by two baghouses in parallel. This stream represents half of the total emissions from this unit. Therefore, emission factor = (1/2) X 26.1 = 13.05 lb/ton.

TSP - Crushing System No. 2 consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

Particulate matter from this system is controlled by two baghouses in parallel. This stream represents half of the total emissions from this unit. Therefore, emission factor = (1/2) X 26.1 = 13.05 lb/ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 009-03	Emission unit name: No. 4 Crushing System	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The No. 4 Crushing System consists of a primary, secondary, and tertiary crushing system, and screening operations used to size the ferroalloy according to buyer specifications prior to shipment. Emissions from this operation are controlled by the MagSil Scrubber.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	9.85	43.13
Total Particulate Matter (TSP)	9.85	43.13
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Crushing System No. 4 which consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

TSP - Crushing System No. 4 which consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 009-04	Emission unit name: No. 5 Crushing System	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The No. 5 Crushing System consists of a primary, secondary, and tertiary crushing system, and screening operations used to size the ferroalloy according to buyer specifications prior to shipment. Emissions from this operation are controlled by the MagSil Scrubber.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	0.88	3.84
Total Particulate Matter (TSP)	0.88	3.84
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Crushing System No. 5 which consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

TSP - Crushing System No. 5 which consists of four stages: primary crushing, secondary crushing, tertiary crushing, and screening. An emission factor was obtained for each of the two types of processes from the Ohio EPA Feasibility Study, "Reasonably Available Control Measures for Fugitive Dust Sources" (September 1980), Ohio Environmental Protection Agency, Division of Air Pollution Control. Emission factors are as follows:

7.2 lb/ton processed for each of the crushing operations

4.5 lb/ton for the screening operation

Total EF=(7.2 lb/ton) x 3 + 4.5 lb/ton = 26.1 lb/ton processed. Conservatively assume all PM is PM10.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance** Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 009-06	Emission unit name: Material Batch Drops	List any control devices associated with this emission unit.
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Emissions from raw material batch drops occurring both outside in the raw material storage area, and inside for materials transferred into the building. Emissions were quantified for quartz gravel, coal, wood chips, and limestone.

Manufacturer:	Model number:	Serial number:
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Construction date:	Installation date:	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)	1.58	6.93
Total Particulate Matter (TSP)	1.58	6.93
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM10 - Emissions from raw material batch drops occurring both outside in the raw material storage area, and inside for materials transferred into the building. Emissions were quantified for quartz gravel, coal, wood chips, and limestone using the method described in AP-42 5th Edition, Chapter 13.2.2. Emission factors were developed for each material (refer to attached spreadsheets). Conservatively assume all PM is PM10.

TSP - Emissions from raw material batch drops occurring both outside in the raw material storage area, and inside for materials transferred into the building. Emissions were quantified for quartz gravel, coal, wood chips, and limestone using the method described in AP-42 5th Edition, Chapter 13.2.2. Emission factors were developed for each material (refer to attached spreadsheets).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45CSR7

 X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT F

SCHEDULE OF COMPLIANCE FORMS

ATTACHMENT F - Schedule of Compliance Form

Complete this section if you indicated noncompliance with any of the applicable requirements identified in the permit application. For each emission unit which is not in compliance, identify the applicable requirement, the reason(s) for noncompliance, a description of how the source will achieve compliance, and a detailed schedule of compliance. If there is a consent order that applies to this requirement, attach a copy to this form.

1. Applicable Requirement**Unit(s):****Applicable Requirement:****2. Reason for Noncompliance:****3. How will Compliance be Achieved?****4. Consent Order Number (if applicable): MM-06-001****5. Schedule of Compliance.** Provide a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance, including a date for final compliance.

Remedial Measure or Action

Date to be Achieved

Submit an updated Title V Permit Application

Monday, April 24, 2006

6. Submittal of Progress Reports.**Content of Progress Report:****Report starting date:** MM/DD/YYYY**Submittal frequency:**

ATTACHMENT G

AIR POLLUTION CONTROL DEVICE FORMS

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 000A	List all emission units associated with this control device. Crushing Operations	
Manufacturer: Joy Manufacturing Company	Model number:	Installation date: 01/01/1982
Type of Air Pollution Control Device: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	95
TSP	100	95
Metals	100	95
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Scrubber is a low-pressure impingement-type scrubber used to control the dust generated from the magnesium-silicon (magsil) ferroalloy crushing operations. Plant personnel estimate the control efficiency to be 99 percent. A control efficiency of 95 percent has conservatively been assumed. The liquid recirculation rate of the scrubber is 90 gpm and the wastewater blowdown rate is 10 gpm. Pressure Drop – 6 to 10 inches of H ₂ O, Gas temp – 68 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Recirculation rate		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 000D	List all emission units associated with this control device. Crusher System No. 1	
Manufacturer: Wheelabrator	Model number:	Installation date: 01/01/1952
Type of Air Pollution Control Device: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). This control device represents one of three baghouses operating parallel to one another. Pressure Drop – 3 to 7 inches of H2O Flow rate – 8000 scfm Gas temp – 70 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 000E	List all emission units associated with this control device. Crusher System No. 1	
Manufacturer: American Air Filter	Model number:	Installation date: 01/01/1952
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). This control device represents one of three baghouses operating parallel to one another.		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 000F	List all emission units associated with this control device. Crusher System No. 2	
Manufacturer: American Air Filter	Model number:	Installation date: 01/01/1980
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). This control device represents one of two baghouses operating parallel to one another. Pressure Drop – 3 to 7 inches of H2O Gas Flow Rate – 6000 scfm Gas temp – 70 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: <div style="text-align: center;">0001</div>	List all emission units associated with this control device. <div style="text-align: center;">Baghouse for No. 9 Furnace</div>	
Manufacturer: <div style="text-align: center;">Ohio Ferro Alloys</div>	Model number:	Installation date: <div style="text-align: center;">01/01/1989</div>
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Baghouse contains six compartments one to be maintained as a backup. Each compartment contains 448 8" diameter by 20' long bags for a compartment cloth area of 17,920 sq ft. Air to cloth ratio with 5 compartments on-line is 1.67 to 1. Air to cloth ratio with 4 bags on-line is 2.09 to 1. The baghouse will never be operated with less than 4 compartments on line. This allows one compartment to be in cleaning mode, and one compartment down for maintenance. Air to cloth ratio and cloth area (1.67:1 and 71,680, respectively) represent those values incurred with 4 compartments in operation.		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Monitor pressure drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 0002	List all emission units associated with this control device. Furnace No. 2	
Manufacturer:	Model number:	Installation date: 01/01/1973
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Baghouse contains 11 compartments, each with 256 bags for a total 2816 bags. Each compartment can be isolated for cleaning (approximate cleaning time 33 minutes per compartment). Air to cloth ratio is 2.05. Pressure Drop – 8 to 12 inches of H2O Flow rate – 45000 scfm Gas temp – 330 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 0003	List all emission units associated with this control device. Furnace No. 5	
Manufacturer: American Air Filter	Model number:	Installation date: 01/01/1973
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Baghouse contains 7 compartments, each with 256 bags for a total 1792 bags. Each compartment can be isolated. Bags are cleaned with reverse air provided by a 300 hp fan (cleaning time is approximately 21 minutes per compartment). Air to cloth ratio is 2.05. Pressure Drop – 8 to 12 inches of H2O, Flow rate – 24000 scfm, Gas temp – 330 degrees F Designed for 99.5% removal efficiency. Efficiency is noted as zero since emissions were estimated based on stack tests performed on baghouse outlet.		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 0004	List all emission units associated with this control device. Furnace No. 7	
Manufacturer: American Air Filter	Model number:	Installation date: 01/01/1973
Type of Air Pollution Control Device: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Baghouse contains 7 compartments, each with 256 bags for a total 1792 bags. Each compartment can be isolated. Bags are cleaned with reverse air provided by a 300 hp fan (cleaning time is approximately 21 minutes per compartment). Air to cloth ratio is 2.05. Pressure Drop – 8 to 12 inches of H2O, Flow rate – 24000 scfm, Gas temp – 330 degrees F Designed for 99.5% removal efficiency. Efficiency is noted as zero since emissions were estimated based on stack tests performed on baghouse outlet.		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 0005	List all emission units associated with this control device. MGO Baghouse	
Manufacturer: Joy Manufacturing Co.	Model number:	Installation date: 01/01/1975
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Baghouse has two compartments, each with 720 bags (1440 bags total). Air to cloth ratio and cloth surface area are unknown. Pressure Drop – 6 to 10 inches of H2O Flow rate – 6000 scfm Gas temp – 150 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 0006	List all emission units associated with this control device. Crushing System No. 1	
Manufacturer: Wheelabrator	Model number:	Installation date: 01/01/1952
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). This control device represents one of two baghouses operating parallel to one another. Pressure Drop – 3 to 7 inches of H2O Flow rate – 8000 scfm Gas temp – 70 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 0008	List all emission units associated with this control device. Crushing System No. 2	
Manufacturer: Norblo	Model number:	Installation date: 01/01/1968
Type of Air Pollution Control Device: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input checked="" type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
PM10	100	99.5
TSP	100	99.5
Metals	100	99.5
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). This control device represents one of two baghouses operating parallel to one another. Pressure Drop – 3 to 7 inches of H2O Flow rate – 10000 scfm Gas temp – 70 degrees F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Pressure Drop		

APPENDIX A

POTENTIAL TO EMIT CALCULATION SUMMARY

Facility-Wide Potential to Emit (per AIR4)

Emission Unit	CO		NOX		LEAD		PM10		TSP		SO2		VOC	
	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY
00A-01							0.44	0.19	0.44	0.19				
00B-01							2.22	9.74	8.9	38.97				
00B-02							4.47	19.57	4.47	19.57				
00C-01	0.0479	0.21	0.1	0.44			4.47	19.57	4.47	19.57	0.069	0.3	0.003	0.01
001-01			1.64	7.19	0.000007	0.00003	4.73	20.75	4.73	20.75	243.46	1067.78	51.3	255.01
001-02			0.84	3.68	0.00012	0.00052	4.73	20.75	4.73	20.75	89.44	391.72	18.46	80.85
001-03			0.84	3.68	0.00026	0.0012	10.06	44.06	10.06	44.06	111.93	490.24	24.15	105.78
001-04			0.39	1.7	0.00031	0.0014	12.37	54.16	12.37	54.16	58.88	257.87	99.85	437.34
002-0B							0.44	1.93	0.44	1.93				
005-01							0.02	0.099	0.05	0.221				
005-02							0.06	0.25	0.13	0.56				
005-03							0.15	0.68	0.34	1.5				
005-04							0.06	0.25	0.13	0.56				
005-05							0.24	1.05	0.53	2.34				
005-06							1.35	5.91	3	13.14				
005-07							2.19	9.59	4.87	21.32				
009-01							0.13	0.58	0.13	0.58				
009-02							0.51	2.24	0.51	2.24				
009-03							9.85	43.13	9.85	43.13				
009-04							0.88	3.84	0.88	3.84				
009-06							1.58	6.93	1.58	6.93				
TOTALS	0.0479	0.21	3.81	16.69	0.000697	0.00315	60.95	265.269	72.61	316.311	503.779	2207.91	193.763	878.99

Note: The SO2 emissions shown above, from the previous permit application, were mistakenly calculated based on combustion of coal. In fact, there is no coal combustion as part of this process. The SO2 emissions are therefore not included in the PTE emissions table.

Emission Unit	ARSENIC		CADMIUM		CHROMIUM		MANGANESE		MERCURY		NICKEL		SELENIUM	
	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY	LB/HR	TPY
001-01	0.00007	0.00028	0.000062	0.00028	0.025	0.11	0.07	0.3	0.003	0.014	0.016	0.07	0.000062	0.00028
001-02	0.00005	0.00022	0.00005	0.00022	0.02	0.09	0.06	0.25	0.0026	0.011	0.013	0.058	0.00005	0.00022
001-03	0.00003	0.00012	0.00003	0.00012	0.01	0.05	0.03	0.12	0.0012	0.0052	0.062	0.027	0.00003	0.00012
001-04	0.00071	0.00031	0.00071	0.00031	0.03	0.13	0.08	0.34	0.0012	0.0052	0.02	0.08	0.000071	0.00031
TOTALS	0.00086	0.00093	0.000852	0.00093	0.085	0.38	0.24	1.01	0.008	0.0354	0.111	0.235	0.000213	0.00093

APPENDIX B

MACT ACTION PLAN (40CFR63 SUBPART XXX)

40CFR63 Subpart XXX Action Plan
Felman Production, Inc.

On January 23, 2006 Felman Production, Inc. (Felman) was directed, by Consent Order MM-06-001 (Order) to submit a compliance plan in regard to 40CFR63 Subpart XXX, National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese. This subpart applies to all new and existing ferromanganese and silicomanganese production facilities that manufacture ferromanganese or silicomanganese and are major sources or are co-located at major sources of hazardous air pollutant emissions. The sources at a ferromanganese and silicomanganese production facility subject to the subpart are:

1. Open submerged arc furnaces with a furnace power input of 22 MW or less when producing ferromanganese.
2. Open submerged arc furnaces with a furnace power input greater than 22 MW when producing ferromanganese.
3. Open submerged arc furnaces with a furnace power input greater than 25 MW when producing silicomanganese.
4. Open submerged arc furnaces with a furnace power input of 25 MW or less when producing silicomanganese.
5. Semi-sealed submerged arc furnaces when producing ferromanganese.
6. Metal oxygen refining (MOR) process.
7. Crushing and screening operations.
8. Fugitive dust sources.
 - a. A new affected source is one for which construction or reconstruction commenced after August 4, 1998.

Felman is subject to the subpart because of numbers 1, 2, and 4 above. The rule then states that each owner or operator of a new or reconstructed affected source that commences construction or reconstruction after August 4, 1998, must comply with the requirements of this subpart by May 20, 1999 or upon startup of operations, whichever is later.

Emission standards, according to the subpart, state that no owner or operator shall cause to be discharged into the atmosphere from any new or reconstructed submerged arc furnace exhaust gases (including primary and tapping) containing particulate matter in excess of one of the following:

1. 0.23 kilograms per hour per megawatt (kg/hr/MW) (0.51 pounds per hour per megawatt [lb/hr/MW]), or
2. 35 milligrams per dry standard cubic meter (mg/dscm) (0.015 grains per dry standard cubic foot [gr/dscf]).

Further, existing open submerged arc furnaces shall not cause to be discharged into the atmosphere from any existing open submerged arc furnace exhaust gases

(including primary and tapping) containing particulate matter in excess of one of the following:

1. 9.8 kilograms per hour (kg/hr) (21.7 pounds per hour (lb/hr)) when producing ferromanganese in an open furnace operating at a furnace power input of 22 MW or less; or
2. 13.5 kg/hr (29.8 lb/hr) when producing ferromanganese in an open furnace operating at a furnace power input greater than 22 MW; or
3. 16.3 kg/hr (35.9 lb/hr) when producing silicomanganese in an open furnace operating at a furnace power input greater than 25 MW; or
4. 12.3 kg/hr (27.2 lb/hr) when producing silicomanganese in an open furnace operating at a furnace power input of 25 MW or less.

Felman is subject to numbers 2 and 4 above.

Operational and work practice standards are set in the subpart, which states that for fugitive dust sources:

1. Each owner or operator of an affected ferromanganese and silicomanganese production facility must prepare, and at all times operate according to, a fugitive dust control plan that describes in detail the measures that will be put in place to control fugitive dust emissions from the individual fugitive dust sources at the facility.
2. The owner or operator must submit a copy of the fugitive dust control plan to the designated permitting authority on or before the applicable compliance date for the affected source as specified in §63.1650(e). The requirement for the owner or operator to operate the facility according to a written fugitive dust control plan must be incorporated in the operating permit for the facility that is issued by the designated permitting authority under part 70 of this chapter.

The controls for fugitive emissions at the facility are incorporated into the Title V Operating Permit application submitted with this plan.

The emissions from the submerged arc furnaces shall be controlled by baghouses. The rule states that baghouses shall be equipped with bag leak detection systems. The owner or operator of a new or reconstructed submerged arc furnace must install and continuously operate a bag leak detection system if the furnace's primary and/or tapping emissions are ducted to a negative pressure baghouse or to a positive pressure baghouse equipped with a stack. The owner or operator must maintain and operate each baghouse such that the following conditions are met:

1. The alarm on the system does not sound for more than 5 percent of the total operating time in a 6-month reporting period.
2. A record is made of the date and time of each alarm and procedures to determine the cause of the alarm are initiated within 1 hour of the alarm according to the plan for corrective action required under §63.1657(a)(7).

Felman shall monitor the pressure drop across the baghouses in order to detect any leaks in the system.

Maintenance requirements are also specified in the rule in that:

1. The owner or operator must develop and implement a written maintenance plan for each air pollution control device associated with submerged arc furnaces, metal oxygen refining processes, and crushing and screening operations subject to the provisions of this part.
2. The owner or operator must keep the maintenance plan on record and available for the Administrator's inspection for the life of the air pollution control device or until the affected source is no longer subject to the provisions of this part. To satisfy the requirement to develop maintenance plans, the owner or operator may use the affected source's standard operating procedures (SOP) manual or other plan, provided the alternative plan meets the requirements of this paragraph and is made available for inspection when requested by the Administrator.

Felman will maintain the baghouses according to the manufacturer's specifications and will maintain a copy of the specifications at the facility and, will perform monthly inspections of the equipment that is important to the performance of the furnace capture system. This inspection will include an examination of the physical condition of the equipment, suitable for detecting holes in ductwork or hoods, flow constrictions in ductwork due to dents or accumulated dust, and operational status of flow rate controllers (pressure sensors, dampers, damper switches, etc.). Any deficiencies will be recorded and proper maintenance and repairs performed.

Felman will conduct performance tests according to the requirements in §63.7 of subpart A. Each performance test will consist of three separate and complete runs using the applicable test methods. Each run must be conducted under conditions that are representative of normal process operations. Performance tests conducted on air pollution control devices serving submerged arc furnaces will be conducted such that at least one tapping period, or at least 20 minutes of a tapping period, whichever is less, is included in at least two of the three runs. The sampling time for each run must be at least as long as three times the average tapping period of the tested furnace, but no less than 60 minutes. The sample volume for each run will be at least 0.9 dscm (30 dscf).

The test methods in Appendix A of part 60 will be used to determine compliance with the emission standards.

1. Method 1 to select the sampling port location and the number of traverse points.
2. Method 2 to determine the volumetric flow rate of the stack gas.
3. Method 3 to determine the dry molecular weight of the stack gas.
4. Method 4 to determine the moisture content of the stack gas.

5. Method 5 to determine the particulate matter concentration of the stack gas for negative pressure baghouses and positive pressure baghouses with stacks.
6. Method 5D to determine particulate matter concentration and volumetric flow rate of the stack gas for positive pressure baghouses without stacks.
7. Method 9 to determine opacity or,
8. Use equivalent alternative measurement methods approved by the Administrator following the procedures described in §63.7(f) of subpart A.

Felman will conduct an initial performance test for air pollution control devices or vent stacks subject to §63.1652(a) through (e) to demonstrate compliance with the applicable emission standards, will conduct annual performance tests for the air pollution control devices and vent stacks associated with the submerged arc furnaces, with the exception of any air pollution control devices that serve tapping emissions combined with non-furnace emissions, such as the MOR process or equipment associated with crushing and screening. Also excluded are air pollution control devices that serve dedicated nonfurnace emissions, such as the MOR process or equipment associated with crushing and screening. The results of these annual tests will be used to demonstrate compliance with the emission standards in §63.1652(a) through (e), as applicable.

Following development, and approval, if required, of the site-specific test plan, Felman will conduct a performance test for each air pollution control device or vent stack to measure particulate matter and determine compliance with the applicable standard.

Felman will determine compliance with the particulate matter concentration standards in §63.1652(a)(2), (d), or (e) as follows:

1. Determine the particulate matter concentration using Method 5 or 5D, as applicable.
2. Compliance is demonstrated if the average concentration for the three runs comprising the performance test does not exceed the standard.

Felman will determine compliance with the particulate mass rate standards in §63.1652(b) or (c) must determine compliance as follows:

1. Determine the particulate matter concentration and volumetric flow rate using Method 5 or 5D, as applicable.
2. Compute the mass rate (EM) of particulate matter for each run using the following equation:

$$E_M = \left[\sum_{i=1}^N C_{pi} Q_{std} \right] / K$$

Where:

EM = mass rate of particulate matter, kg/hr (lb/hr).

N = total number of exhaust streams at which emissions are quantified.

Csi = concentration of particulate matter from exhaust stream "i", mg/dscm (gr/dscf).

Qsdi = volumetric flow rate of effluent gas from exhaust stream "i", dscm/hr (dscf/hr)

K = conversion factor, 1×10^6 mg/kg (7,000 gr/lb).

Compliance will be demonstrated if the average of the mass rates for the three runs comprising the performance test does not exceed the standard. Felman will determine compliance with the rate standard in §63.1652(a)(1) as follows:

1. Determine particulate matter concentration and volumetric flow rate using Method 5 or 5D, as applicable.
2. Compute the process-weighted mass rate (EP) of particulate matter for each run using the following equation:

Where:

EP = process-weighted mass rate of particulate matter, kg/hr/MW (lb/hr/MW).

N = total number of exhaust streams at which emissions are quantified.

Csi = concentration of particulate matter from exhaust stream "i", mg/dscm (gr/dscf)

Qsdi = volumetric flow rate of effluent gas from exhaust stream "i", dscm/hr (dscf/hr)

P = Average furnace power input, MW

K = conversion factor, 1×10^6 mg/kg (7,000 gr/lb).

Compliance will be demonstrated if the average process-weighted mass rate for the three runs comprising the performance test does not exceed the standard.

Compliance demonstration with opacity standards will be demonstrated by conducting initial opacity observations of the shop building to demonstrate compliance with the applicable opacity standards according to §63.6(h)(5), which addresses the conduct of opacity or visible emission observations.

In conducting the opacity observations of the shop building, the observer will limit his or her field of view to the area of the shop building roof monitor that corresponds to the placement of the affected submerged arc furnaces.

Felman will conduct the opacity observations according to EPA Method 9 of 40 CFR part 60, appendix A, for a minimum of 60 minutes. When demonstrating initial compliance with the shop building opacity standard, Felman will simultaneously establish parameter values for one of the following:

1. The control system fan motor amperes and all capture system damper positions
2. The total volumetric flow rate to the air pollution control device and all capture system damper positions
3. Or volumetric flow rate through each separately ducted hood that comprises the capture system.

Felman will do daily observations of the baghouses for the presence of any visible emissions and, daily monitor the pressure drop across each baghouse to ensure the pressure drop is within the normal operating range identified in the baghouse maintenance plan. As well, there will be weekly confirmation that dust is being removed from hoppers through visual inspection ensuring the proper functioning of removal mechanisms and, monitor cleaning cycles to ensure proper operation and will quarterly confirm the physical integrity of the baghouse structure through visual inspection of the baghouse interior for air leaks. There will be semiannual inspection of fans for wear, material buildup, and corrosion through visual inspection.

If a performance test is to be conducted, Felman will notify the Administrator in writing of his or her intention to conduct a performance test at least 30 calendar days before the performance test is scheduled. Additionally, the Administrator will be notified, in writing, of the anticipated date for conducting the opacity or visible emission observations not less than 30 days before the opacity or visible emission observations are scheduled to take place.

Felman will submit a notification of compliance status before the close of business on the 60th day following completion of the compliance demonstration. Felman will also submit periodic reports to a State on a time line to be established by mutual agreement with the State. Results of the initial performance test will be reported as part of the notification of compliance status

Periodic startup, shutdown, and malfunction reports (including actions taken to correct a malfunction) shall be included in the semiannual report. The report will be certified by the owner or operator or other responsible official, submitted semiannually and, delivered or postmarked by the 30th day following the end of each calendar half.

Felman will submit reports that summarize the records maintained as part of the practices described in the maintenance plan for air pollution control devices, including an explanation of the periods when the procedures were not followed and the corrective actions taken.

Reports explaining the periods when the procedures outlined in the fugitive dust control plan were not followed and the corrective actions taken will also be submitted along with a summary of monitoring parameter excursions and the corrective actions taken. Reports will be submitted that include the following information:

1. Records of all alarms.
2. Description of the actions taken following each bag leak detection system alarm.
3. Calculation of the percent of time the alarm on the bag leak detection system sounded during the reporting period.

General recordkeeping requirements will be complied with by:

1. Maintaining records for 5 years from the date of each record of:

- a. The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment and control devices);
- b. The occurrence and duration of each malfunction of the source or air pollution control equipment;
- c. All maintenance performed on the air pollution control equipment;
- d. Actions taken during periods of startup, shutdown, and malfunction
- e. Corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the startup, shutdown, and malfunction plan;
- f. All information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions) are consistent with the procedures specified in such plan
- g. All required measurements needed to demonstrate compliance with the standard and to support data that the source is required to report, including, but not limited to, performance test measurements (including initial and any subsequent performance tests) and measurements as may be necessary to determine the conditions of the initial test or subsequent tests;
- h. All results of initial or subsequent performance tests;

In addition to the general records, Felman will maintain records for 5 years from the date of each record of:

- 1. Records of manufacturer certification that monitoring devices are accurate to within 5 percent (unless otherwise specified in this subpart) and of calibrations performed at the manufacturer's recommended frequency, or at a frequency consistent with good engineering practice, or as experience dictates.
- 2. Records of bag leak detection system output.
- 3. An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, and the date and time the alarm was corrected.
- 4. Copy of the written maintenance plan for each air pollution control device.
- 5. Copy of the fugitive dust control plan.
- 6. Records of each maintenance inspection and repair, replacement, or other corrective action.
- 7. All records for the most recent 2 years of operation will be maintained on site.
- 8. Records for the previous 3 years may be maintained off site.

If there are questions or comments concerning this plan please contact Datagraphics at (724) 941-3500.